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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,712	02/06/2002	Mark C. H. Lamorey	BUR920010092	7578

23550 7590 11/07/2003

HOFFMAN WARNICK & D'ALESSANDRO, LLC  
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ALBANY, NY 12207

EXAMINER
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NGUYEN, KIMBINH T

ART UNIT	PAPER NUMBER
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2671

DATE MAILED: 11/07/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/683,712

Applicant(s)

LAMOREY ET AL.

Examiner

Kimbinh T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-18 are pending in the application.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4-9, 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. (4,785,399).

**Claim 1**, Evans et al. discloses a method of verifying a data preparation for an article constructed of design layers (modeling of the growth of layers (polyhedron), see abstract), the data being in terms of an instruction algorithm (col. 8, lines 3-14) comprising: restating the instruction algorithm in terms of at least two fundamental algorithms (Boolean operations Boolean complement; Boolean difference; col. 11, lines 6-23); creating a graphical representation for each fundamental algorithm (col. 6, lines 29-63); combining the graphical representations corresponding to each fundamental algorithm to form a combined graphical representation (applying the grow operation to a composite union of underlying layers and then Boolean differencing the result and underlying composite; col. 16, line 50 through col. 17, line 3; col. 24, lines 47-48); Evans does not teach determining whether the data preparation is correct based on the combined graphical representation. However, Evans teaches the system is used to

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carry out a shaping operation on the demonstration geometric model. The user may review the complete rayset in terms of operation, entering changes as the need. When the user is satisfied that the parameterized operational rayset is correct, the user accepts it for use on the actual geometric object to be shaped (col. 25, lines 55-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method of reviewing the resulting sweptspace in term of appropriate shaped model as taught by Evans for determining the corrected model based on the combined operational rayset and parameters, because it would provide a controlled cumulative translational sweep to perform the desired shaping of the geometric model, with features for convenience and economy of use (col. 26, lines 6-9).

**Claims 4-9**, Evans et al. discloses inverting the combined graphical representation prior to the determining step (col. 13, lines 13-35); restating is a reiterative process (col. 24, lines 15-20; col. 25, lines 1-4); the article is for one of an etching (a blanket layer and vertically etched as in fig. 10a) and mask (the rounded mask; col. 17, lines 21-50; figs. 10a, 12a and 12b); the article (the shape of a swell) includes discrete segments (col. 13, lines 13-20); implementing the combined graphical representation and comparing the result to the article; comparing the combined graphical representation of the article (comparing the shapes; col. 17, lines 21-54).

**Claims 10-12**, the rationale provided in the rejection of claims 1, 8 and 9 is incorporated herein.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. (4,785,399) in view of Woolbright (5,640,497).

**Claim 2**, Woolbright discloses organizing the instruction algorithm according to group theory operators (the logical operations used in defining the layer combinations include operators such as OR, NOT, XOR, etc; col. 4, lines 59-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the logical operations as taught by Woolbright into the modeling of the growth of layers disclosed by Evans's teaching for organizing the instruction algorithm, because using theory operators, it would create equated layers based on the new design rules which would define the redesign the layout (col. 4, lines 40-42).

5. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. (4,785,399) in view of Yasumoto et al. (4,849,921).

**Claim 3**, Yasumoto et al. discloses determining a polarity of the product (when the output of the first arithmetic and logic circuit is positive, the selector circuit outputs the output signal of the first. When the output of the first arithmetic is negative, the selector outputs the second; col. 4, lines 5-11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the a polarity of the product as taught by Yasumoto's teaching into the modeling of the growth of layers disclosed by Evans's teaching, because it would provide a digital signal processor which can calculate the absolute difference a pair of input at a high speed without needing additional elements (col. 1, lines 13-15).

6. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans et al. (4,785,399) in view of Yasumoto et al. (4,849,921) and Woolbright (5,640,497).

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**Claims 13-18**, the rationale provided in the rejection of claims 1, 3, 4, 7-9 is incorporated herein. In addition, Woolbright teaches a computer usable medium having computer readable program code (col. 10, line 56 through col. 11, line 12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the a computer usable medium as taught by Woolbright into the modeling of the growth of layers disclosed by Evans's teaching for producing the claim invention, because it would implement the system and method to review data being input into the system to be processed by the apparatus and method, as well as any data which might be developed as a result of the processing (col. 11, lines 6-12).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kimbinh Nguyen** whose telephone number is **(703) 305-9683**. The examiner can normally be reached **(Monday- Thursday from 7:00 AM to 4:30 PM and alternate Fridays from 7:00 AM to 3:30 PM)**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached at (703) 305-9798.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**Or faxed to:**

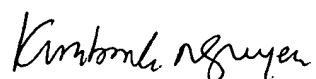
**(703) 872-9314 (for Technology Center 2600 only)**

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Hand-delivered responses should be brought to Crystal Part II, 2121 Crystal Drive,  
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or  
proceeding should be directed to the Technology Center 2600 Customer Service Office  
whose telephone number is (703) 306-0377.

October 29, 2003

A handwritten signature in black ink, appearing to read "Kimbinh Nguyen".

Kimbinh Nguyen

Patent Examiner AU 2671